

Rejection Under 35 U.S.C. § 103

The Office Action rejects claims 19, 20, 22, 25, 27, 30 and 31 under 35 U.S.C. §103(a) as being unpatentable over Bleich et al. (5,576,515) in view of Gaeris (5,789,711). The Office Action asserts that Bleich discloses an unshielded data cable comprising a plurality of twisted pairs of conductors and a non-conductive outer jacket. The Office Action further asserts that Gaeris discloses a cable having a non-conductive central core that defines a plurality of channels within which a plurality of twisted pairs of conductors are individually disposed. The Office Action states that it would have been obvious to one skilled in the art to include the non-conductive central core as taught by Gaeris into the cable of Bleich to separate the pairs from each other to reduce crosstalk among the pair as taught by Gaeris. Applicants respectfully traverse this rejection.

Contrary to the asserted combination of the Office Action, one skilled in the art would not be motivated to combine the central core disclosed in Gaeris with the unshielded cable disclosed in Bleich, because such a combination would result in the cable being rendered non-usable for its intended purpose due to deteriorated cable performance. (See paragraph 6 of the Declaration of William T. Clark, hereinafter referred to as the Declaration).

Bleich discloses a plenum-rated unshielded twisted pair cable. According to Bleich, a plenum-rated cable must pass the Underwriters Laboratory Plenum Burn Test, which sets certain requirements for smoke suppression and burn rate of the cable (col. 4, lines 42-53). In order for the cable to also be capable of transmitting high frequency signals, the cable also requires a low dissipation factor and the insulation material should have a low dielectric constant (col. 3, lines 58-67). At the time of invention of the cable of the present invention, the primary concerns for designers of unshielded twisted pair cables were return loss, impedance uniformity and, for plenum-rated cables such as that disclosed in Bleich, smoke suppression and burn rate, but not crosstalk. This was because standard unshielded cables already met the Category 5 requirements for crosstalk performance. (See paragraphs 1 and 2 of the Declaration). In addition, it was generally known in the art of unshielded data cables that the introduction of additional components (such as a central core) into an unshielded twisted pair cable generally worsens the return loss, makes manufacture more difficult and costly, and adds to impedance non-uniformity.

(See paragraph 4 of the Declaration). Furthermore, the addition of a central core to an unshielded cable for plenum-rated applications, such as the cable disclosed in Bleich, would add material to the cable that would produce additional smoke when burned and possibly increase the burn rate of the cable, thereby making it more difficult for the cable to meet the required specifications for plenum-rated cables. (See paragraph 5 of the Declaration). Thus, the addition of an additional member to an unshielded twisted pair cable would have generally been considered detrimental to the cable performance and undesirable, especially since there was no perceived need to increase crosstalk isolation in unshielded twisted pair cables.

Additionally, since Bleich is primarily concerned with producing a cable that can qualify as an unshielded plenum-rated cable, one of skill in the art would not be motivated, based on the disclosure of Bleich, to add components to the cable that may render it unsuitable for plenum application. Also, the cable disclosed in Bleich is stated to meet the Category 5 crosstalk (and other) requirements (see col. 5, lines 22-24 of Bleich). Therefore, there would have been no motivation to attempt to further reduce crosstalk between pairs by adding a central core to the cable, especially since inclusion of the core would worsen other performance characteristics of the cable and make manufacture more difficult and more expensive.

Further, Gaeris does not provide any motivation or suggestion to include a central core member into an unshielded cable, such as that disclosed in Bleich. Gaeris is solely concerned with shielded cables, and each advantage of the central core is described by Gaeris in relation to a shielded cable. Nowhere does Gaeris disclose or suggest that it could be useful or desirable to use the central core in an unshielded cable. As discussed above, at the time of Applicants' invention, there was no perceived need to reduce crosstalk in unshielded cables, and in particular no need to reduce crosstalk between twisted pairs in Bleich's cable since that cable already meets the Category 5 specifications including crosstalk. Therefore, for at least the reasons discussed above, absent Applicants' own disclosure, there is no motivation or suggestion to one of skill in the art to combine the central core of Gaeris with the cable of Bleich, and thus the asserted combination is improper.

An invention is unpatentable under 35 U.S.C. § 103 if the differences between it and the prior art "are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art.” In re Dembiczak, 175 F.3d 994, 998, (1999) citing Graham v. John Deere Co., 383 U.S. 1, 14 (1996). The court in Dembiczak stresses the importance of avoiding hindsight when measuring the claimed invention against the standard established by § 103, and being guided only by the prior art references themselves and the then-accepted wisdom in the field. 175 F.3d 994, 999. In Dembiczak, the obviousness rejections resulted from a combination of conventional trash bags, and the Holiday and Shapiro publications which taught the construction of decorated paper bags. The Board of Appeals and Interferences justified the combination of references by simply stating that the Holiday and Shapiro references would have suggested the application of facial indicia to plastic trash bags. Id. at 1000. The court held that the Board’s “reference by reference, limitation by limitation” analysis failed to demonstrate how the Holiday and Shapiro references taught or suggested their combination with conventional trash bags, and that thus the Board’s conclusion of obviousness was not supported as a matter of law. Id. Thus, it is horn book patent law that, to support an obviousness rejection, the Examiner must specifically identify a motivation or suggestion in the prior art to change the prior art to fall within one scope of the claims. If a specific motivation or suggestion in the prior art is not specified, the rejection cannot be maintained.

In the art cited, there is no motivation or suggestion to combine the references as asserted. The present claimed invention is patentable under § 103 because the subject matter taken as a whole, namely an unshielded cable including a central core, would not have been obvious to one of ordinary skill in the art at the time the invention was made. Although, as discussed above, Gaeris discloses a shielded cable including a central core, like the Holiday and Shapiro references failing to show how their teachings could be applied to conventional trash bags, Gaeris fails to provide any suggestion for its combination with an unshielded cable, such as that disclosed in Bleich. As stated above, the then-accepted wisdom in the art of unshielded cables was that conventional unshielded cables met the Category 5 requirements for crosstalk performance, and addition of a central core to an unshielded cable would have been seen as unnecessary and even detrimental, for the reasons discussed above. Therefore, the combination of Bleich and Gaeris suggested in the Office Action is based on hindsight, and is improper.

Claims 20, 22, 25, 27, 30 and 31 depend, either directly or indirectly, from claim 19 and are therefore allowable for at least the same reasons as discussed for claim 19. Withdrawal of the rejection of claims 19, 20, 22, 25, 27, 30 and 31 is therefore respectfully requested.

The Office Action rejects claims 23 and 29 under 35 U.S.C. §103(a) as being unpatentable over Bleich et al. in view of Gaeris as applied to claim 19, and further in view of Hawley. The Office Action states that Hawley discloses fluoropolymer being a known material for being used in wire and cable insulation and being a noncombustible (fire resistant) material, and that it would thus have been obvious to one skilled in the art to use fluoropolymer for the modified central core of Bleich et al. Applicants respectfully traverse this rejection.

As discussed above in reference to claim 19, the asserted combination of Bleich and Gaeris suggested in the Office Action is improper. Therefore, without acceding to the appropriateness of the combination including Hawley, Hawley cannot be combined with the improper combination of Bleich and Gaeris to render claims 23 and/or 29 unpatentable. Furthermore, Hawley fails to disclose or suggest an unshielded data cable comprising a non-conductive central core, and thus fails to cure the deficiencies of the asserted combination of Bleich and Gaeris. Claim 19, and thus claims 23 and 29 which depend from claim 19, therefore patentably distinguish over the improper asserted combination of Bleich, Gaeris and Hawley. Accordingly, withdrawal of this rejection is respectfully requested.

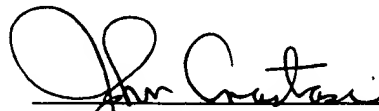
Conclusion

In view of the foregoing remarks, this application should be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No.: 23/2825.

Respectfully submitted,

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